

of the elected embodiment shown in Fig. 2 in order to ensure a proper scope of protection of the subject matter of the present invention. Claims 35-36 and 48-57 have been cancelled without prejudice or admission, thereby leaving only allowed claims 34, 39-44 and 47 pending. In an Advisory Action dated March 17, 2003, the Examiner advised that the February 3 amendment after final would not be entered because the amendments to allowed claim 34 raise new issues requiring further search and consideration. The present RCE has been filed to obtain entry of the February 3 amendment after final.

Applicants present this preliminary amendment in order to more clearly delineate the inventive subject matter of independent claim 34 to further patentably distinguish from the prior art of record. With reference to Fig. 2 which has been reproduced as Exhibit A submitted herewith, amended independent claim 34 is directed to a piezoelectric actuator 2 and requires a plurality of piezoelectric elements 21a-21f, 22a-22l, 23a-23f and 24a-24l stacked in a first direction (e.g., in the left to right direction denoted by arrow H in Exhibit A) and in a second direction (e.g., top to bottom direction denoted by arrow V in Exhibit A) disposed generally perpendicular to the first direction for undergoing expansion/contraction movement to vibrationally drive the

piezoelectric actuator 2 in accordance with a driving signal applied to the piezoelectric elements. The length in the first direction H of at least one of the piezoelectric elements (e.g., the length of piezoelectric element 22a) is different from the length in the first direction H of at least one other of the piezoelectric elements (e.g., the length of piezoelectric element 21a). Electrodes 25a-25e are disposed between the piezoelectric elements stacked in the first direction H.

By the foregoing construction, a piezoelectric actuator which is compact, which has a high energy converting efficiency, which can output a large vibration output and which is simple to manufacture is obtained.

Applicants respectfully submit that the prior art of record does not disclose or suggest the subject matter recited in amended independent claim 34. For example, Figs. 8a-8h of Asselbergs disclose two piezoelectric elements A, B stacked in a thickness direction (i.e., the vertical direction in Fig. 8a) of the piezoelectric elements A, B. The piezoelectric elements A, B are not stacked in a direction generally perpendicular (i.e., the horizontal direction in Fig. 8a corresponding to the length of each of the piezoelectric elements A, B) to the thickness direction. The lengths of the

piezoelectric elements A and B are different in the horizontal direction, but the same in the vertical direction (i.e., the direction in which the piezoelectric elements are stacked). Thus Asselbergs does not disclose or suggest a plurality of piezoelectric elements stacked in a first direction and in a second direction generally perpendicular to the first direction, the length in the first direction of at least one of the piezoelectric elements being different from the length in the first direction of at least one other of the piezoelectric elements, as required by independent claim 34. Furthermore, Asselbergs does not disclose or suggest a plurality of electrodes disposed between the piezoelectric elements stacked in the first direction, as required by independent claim 34.

Kanda discloses a piezoelectric actuator having a plurality of stacked piezoelectric elements 29, 30 (Fig. 2C). However, Kanda does not disclose or suggest a plurality of electrodes disposed between the piezoelectric elements stacked in the first direction, as required by independent claim 34.

Attached hereto is a marked-up version of the changes made to claim 34 by the current amendment. The attached page is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE."

In view of the foregoing amendments and discussion, applicants respectfully submit that the application is now in condition for allowance. Accordingly, favorable reconsideration and allowance of the claims are most respectfully requested.

Respectfully submitted,

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MAILING CERTIFICATE

I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: COMMISSIONER OF PATENTS & TRADEMARKS, Washington, D.C. 20231, on the date indicated below.


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Signature

April 3, 2003

Date



VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claim 34 has been amended as follows:

34. (Thrice Amended) A piezoelectric actuator comprising: a plurality of piezoelectric elements stacked in a first direction and in a second direction generally perpendicular to the first direction for undergoing expansion/contraction movement to vibrationally drive the piezoelectric elements in accordance with a driving signal applied thereto, the length in the first direction [of each] of at least [two] one of the piezoelectric elements being different from the length in the first direction of at least one other of the piezoelectric elements[.]; and a plurality of electrodes disposed between the piezoelectric elements stacked in the first direction.